

into the spermatic (ovarian) vein, and thence into the vena cava and right heart. Three cases in the last six years occurring in this clinic (Universitäts Frauenklinik, Berlin) show that this accident is not so rare as many imagine.

THE HISTOLOGY OF THE HUMAN AMNION AND UMBILICAL CORD.

LANGE (*Zeitschr. für Geburtshilfe und Gynäkologie*, Bd. xxviii., H. 1) presents a contribution to the histological anatomy of the amnion and umbilical cord in the human embryo. His conclusions are as follows:

1. The epithelium of the amnion is not cubical or cylindrical, but a single layer of pavement epithelium.
2. The granulation of the dead amniotic epithelium does not depend on the presence of fat.
3. In the amniotic epithelium there are no open mouths of lymph passages. The pretended stomata are artificial, and arise through the rupture of degenerated mucous cells.
4. The umbilical epithelium is, as a rule, a three-, seldom four- or five-layered laminated epithelium, whose deep layer consists only of flat cells.
5. During embryonic life the differentiation into a laminated epithelium appears on the umbilical cord earlier than the division of the epithelium.
6. "Stomata" are not found in the epithelium of the umbilical cord.
7. The umbilical cord of a mature fœtus contains numerous elastic fibres within the connective tissue.
8. The cord contains no other lymph channels than the connective-tissue corpuscles of Virchow.
9. These capillary lymph channels are most probably susceptible of injection.
10. Between the epithelial cells of the cord can be found no branches of lymph channels.

ANATOMY AND PHYSIOLOGY OF THE CIRCULATION OF THE NEWBORN.

STRASSMANN (*Archiv für Gynäkologie*, Bd. xlv., H. 3) gives the results of his investigations concerning the anatomy and physiology of the circulation in the newborn. Briefly these may be tabulated as follows:

1. The explanations heretofore accepted as to the cause of the closure of the ductus arteriosus are not satisfactory:
 - a. Thrombosis is seldom found, and is pathological.
 - b. Self-closure by contraction of the duct is not demonstrated.
 - c. Changes of position of the thoracic organs with bending of the duct after inspiration has no anatomical basis.
 - d. The post-partum changes in the duct walls are neither peculiar nor characteristic, as they also occur in the umbilical vessels.
 - e. The impulses mentioned in b and d favor the definitive obliteration of the duct.
2. The closure of the duct comes instantly and mechanically.
3. The manner of entrance of the duct into the aorta makes possible such mechanical closure.
4. From the fifth month in the human fœtus a progressive development of

the angle made by the anterior wall of the duct at its entrance into the aorta forms a valvular duplication which closes the duct at the most favorable point, which is that at which the arch of the aorta becomes the descending part of the same. Similar conditions are found in fetal sheep, dogs, and cats.

5. The progressive differentiation between the pulmonary and aortic systems affords an example, as seen in the development of the valve at the foramen ovale.

6. In order to close the exit from the duct to the aorta, respiration is essential. Thereby the pressure in the right heart and pulmonalis sinks, and later rises in the left heart and in the aorta. Then the aortic orifice of the duct (already partially empty) is mechanically closed.

7. The closure does not happen—

a. If the breathing be insufficient.

b. If, by reason of premature breathing through aspiration of blood, the duct be overstretched.

c. If abnormal conditions of pressure obtain in the large vessels.

d. If the development of the duct be incomplete.

8. The finding of patency of the duct in later life without disturbance of the circulation is due to mechanical embarrassment of the aortic mouth.

9. A secondary patency of the duct arises from separation of the closed aortic orifice from the aorta, and the original closure is still demonstrable.

10. Attempts to inject with coagulated fluids confirm the closure of the duct.

11. As late as the eighth day the duct can be injected from the pulmonalis.

12. It can be injected from the aorta only in fetuses of defective development; in overstretched ducts, or by excessive pressure in the aorta.

13. Through overpressure from the aorta the duct can be filled only after distending all the arterial system, and then—

a. In the earliest days the duct-opening is forced apart; or,

b. In the second half of the first week the anterior duct wall is inverted.

14. The aortic part of the distended duct seems narrower than the pulmonary, because of the pressure on its walls from the aorta.

MENSTRUATION AND OVULATION.

LEOPOLD and MERONOFF (*Archiv für Gynäkologie*, Bd. xlv., H. 3) summarize as follows:

1. Menstruation is generally accompanied by ovulation, though it not infrequently occurs without the latter.

2. This periodical flow of blood depends on the presence of the ovary and of a sufficiently developed uterine mucous membrane—two factors without whose common action no typical outflow can occur; hence it does not depend on the maturity or rupture of a Graafian follicle. If either factor be wanting, no flow occurs, however sound the other may be.

3. If ovulation have occurred, it may generally be referred back to the time of the hemorrhage. It requires for its development a strong efflux of blood to the genital organs for several days, and forms then a typical corpus luteum.

4. Outside of the time of the four-weekly bleedings ovulation also occurs, but this is seldom under physiological conditions.